

**ABSTRACT****DEMULTIPLEXER CONTROL SYSTEM**

There is provided an system for controlling the demultiplexing  
5 process in an optical backplane device (100). The system has application  
to optical switching in high-speed digital communication routers and  
switches. In demultiplexing, a selected compressed data packet (120) is  
extracted from a multiplexed stream of compressed packets by a modulator  
(102) and decompressed (104). The modulator (102) is controlled by a  
10 control signal (112). An error in the timing of the modulator control signal  
(112) corresponds to a characteristic distortion in the decompressed signal  
(116). By monitoring the effect of timing errors on decompressed signals  
(116), steps can be taken to correct the timing errors by controlling delays  
in either the optical or the electronic parts of the switching device. The  
15 timing of modulator control pulses (112) is thus continuously adjusted to  
minimise timing errors. Instead of monitoring just decompressed signals  
(116), calibration pulse trains of known value and suitable form can be  
inserted.

20 [Figure 1]